CLAIMS

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a first linecard receiving input computer network packets from a computer network, said line card translating said packets into segments;

a switching fabric receiving segments from said linecard, said switching fabric to route said segments to a desired output linecard, said switching fabric having at least one queue therein, said queue having a threshold such that in the event that a segment arrives at said queue and said queue is filled above said threshold, a bit of said segment is set as said segment is passed out of said queue, said bit being set "marking" said segment as that segment having passed through a queue filled above said lower threshold level;

a second line card receiving said segments from said switching fabric, said second linecard translating said segments into a computer network packet for transmission by said second linecard out through a port connected to an output computer network;

a circuit determining whether or not a particular segment of said segments received by said second linecard has said bit set indicating that said segment is marked, and in response to detecting a segment as being marked, discarding said output packet in accordance with a random probability, and in response to detecting that no segment of said output packet is marked, transmitting said output packet onto said computer network.

- 2. The apparatus as in claim 1 wherein said circuit further comprises a hardware computer chip.
- 3. The apparatus as in claim 1 wherein said circuit further comprises an ASIC chip mounted on said output linecard.
- 4. The apparatus as in claim 1 wherein said circuit further comprises a microprocessor.

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lected input packet.

1	5. The apparatus as in claim 1 wherein said circuit further comprises a hardwar	e
2	chip operating with a microprocessor.	

- 6. The apparatus as in claim 1 wherein said circuit discarding said output packet in accordance with a random probability further comprises:
- said circuit counting a total number of segments received by said output linecard;
 said circuit counting a number of said segments received by said linecard which
 are marked;
- said circuit calculating a ratio R by dividing said number of marked segments by said total number of segments;
- said circuit calculating a random number, said random number having a value between zero and a maximum value of said ratio R;
 - said circuit causing said packet to be discarded in the event that said ratio R is greater than said random number.
 - 7. The apparatus as in claim 1 wherein said circuit further comprises: logic for detecting a priority class of at least a selected packet of said input computer network packets, and in response to said priority class, selecting class specific values in calculating a probability for discarding an output packet corresponding to said se-
 - 8. A method for operating a network device, comprising: receiving computer network packets from an input computer network; translating said packets into segments;
 - receiving said segments in a switching fabric, said switching fabric to route said segments to a desired output linecard, said switching fabric having at least one queue
- therein, said queue having a threshold such that in the event that a segment arrives at said
- 7 queue and said queue is filled above said threshold, a bit of said segment is set as said
- segment is passed out of said queue, said bit being set "marking" said segment as that
- 9 segment having passed through a queue filled above said threshold level;

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receiving said segment from said switching fabric by an output linecard, said out-
put linecard translating said segments into a computer network packet for transmission by
said output linecard out through a port connected to an output computer network;

determining whether or not a particular segment of said segments received by said output linecard has said bit set indicating that said segment is marked;

discarding said output packet, in response to detecting a segment as being marked, in accordance with a random probability, and in response to detecting that no segment of said output packet is marked, transmitting said output packet onto said computer network.

- 9. The method for operating a network device of claim 8, wherein said determining step further comprises:
- counting a total number of segments received by said output linecard;
- 4 counting a number of said segments received by said linecard which are marked;
 - calculating a ratio R by dividing said number of marked segments by said total number of segments, the value of ratio R having a maximum value;
- calculating a random number, said random number having a value between zero and said maximum value of ratio R;
 - causing said packet to be discarded in the event that said ratio R is greater than said random number.
- 10. The method for operating a network device of claim 8 further comprising:
- detecting a priority class of at least a selected packet of said input computer network packets;
 - selecting, in response to said priority class, class specific values in calculating a probability for discarding an output packet corresponding to said selected input packet.
 - 11. A computer readable device containing instructions for performing the method of claim 8.
 - 12 Electromagnetic signals propagating on a computer network, said electromagnetic signals containing instructions for performing the method of claim 8.